

1. A pivotable mixer bowl comprising:

a bowl body for receiving material to be mixed;

a first mounting bracket coupled to and extending from an outer surface of said bowl body and having an opening therein;

5 a second mounting bracket coupled to and extending from said outer surface and having an opening therein, said second mounting bracket being vertically spaced from said first mounting bracket, said opening of said second mounting bracket being generally aligned with said opening of said first mounting bracket to define a pivot axis of said mixer bowl; and

10 a locking bracket coupled to and extending from an outer surface of said bowl body.

2. The bowl of claim 1 wherein said locking bracket has an opening therein and is located on an opposite side of said bowl body relative to said first and second mounting brackets.

3. The bowl of claim 2 wherein said locking bracket is located about 180 degrees opposite said first and second mounting brackets on said bowl body.

4. The bowl of claim 1 wherein said bowl body includes an upper edge, and wherein said locking bracket is located adjacent to said upper edge.

5. The bowl of claim 1 wherein said bowl body includes an upper edge, and wherein said bowl further includes a protrusion coupled to and extending from an outer surface of said bowl body, said protrusion being located adjacent to said upper edge.

6. The bowl of claim 5 wherein said edge is generally circular in top view, and wherein said protrusion is located about 90 degrees apart from both said locking bracket and said mounting brackets.

True 180° - appears 90° - see Fig. 17

7. The bowl of claim 1 further comprising a pair of handles coupled to said bowl body, each handle being located on opposite sides of said bowl body.

8. The bowl of claim 1 wherein said locking bracket has an opening therein and wherein said openings of said mounting brackets and said locking bracket are generally circular in top view.

9. A mixer system comprising:
a bowl for receiving a material to be mixed, said bowl including an outer surface and a mounting bracket coupled to and extending from said outer surface, said mounting bracket having an opening formed therein, said bowl further including a locking bracket coupled to and extending from said outer surface on an opposite side of said bowl relative to said mounting bracket; and

a mixer body having a motor for driving a mixing element and a yoke shaped to receive said bowl therein, said mixer body including a mounting pin coupled to said yoke and being shaped to be received in said opening of said mounting bracket to pivotally couple said bowl to said mixer body, said mixer body further including a retractable locking pin coupled to said yoke and being shaped to be received in or located adjacent to said locking bracket to prevent said bowl from pivoting relative to said mixer body.

10. The mixer system of claim 9 wherein said bowl has a central bowl axis, and wherein said mounting pin and said locking pin each extend generally parallel to said bowl axis.

11. The mixer system of claim 9 wherein said locking pin is movable between a retracted position wherein said locking pin is flush with or below an upper surface of said yoke and a protruded position wherein said locking pin protrudes above said upper surface of said yoke.

12. The mixer system of claim 9 further comprising a locking pin actuator, said locking

pin actuator including a cam coupled to said locking pin and located inside said yoke and a pivotable lock handle operatively coupled to said cam, wherein said lock handle can be pivoted to cause rotation of said cam, which in turn causes said locking pin to be retracted or protruded.

13. The mixer system of claim 9 wherein said locking pin includes a generally hemispherical tip.

14. The mixer system of claim 9 wherein said bowl is pivotable to a closed position wherein said mixer body is generally fully received in said yoke, and wherein said mixer system further includes a switch located on said mixer body for detecting when said bowl is in said closed position.

15. The mixer system of claim 14 further comprising an actuating assembly coupled to said mixer body, said bowl including a protrusion, wherein when said bowl is in said closed position said protrusion engages said actuating assembly and urges said actuating assembly into contact with said switch to cause said switch to be triggered.

16. The mixer system of claim 15 wherein said bowl is vertically movable along said mixer body, and wherein said actuating assembly includes a switch plate extending generally vertically such that said switch plate can engage said switch during the entire range of vertical motion of said bowl relative to said mixer body.

17. The mixer system of claim 16 wherein said bowl includes an upper edge and wherein said protrusion is located adjacent to said upper edge.

18. The mixer system of claim 9 wherein said bowl includes an upper edge and wherein said locking bracket is located adjacent to said edge.

19. The mixer system of claim 9 wherein said bowl includes a pair of handles extending outwardly from said outer surface, each handle being located on opposite sides of said bowl.

✓ 20. The mixer system of claim 9 wherein said locking bracket includes an opening that is shaped to receive said retractable locking pin therein.

21. The mixer system of claim 20 wherein said openings of said mounting bracket and locking bracket are both generally circular in top view.

22. The mixer system of claim 9 further comprising an auxiliary mounting bracket coupled to and extending from an outer surface of said bowl and having an opening therein, said auxiliary mounting bracket being vertically spaced from said mounting bracket, said opening of said auxiliary mounting bracket being generally aligned with said opening of said mounting bracket to define a pivot axis of said mixer bowl.

23. A mixer system comprising:

- a bowl for receiving a material to be mixed, said bowl having a central axis;
- a mixer body having a motor for driving a rotatable output component about a central axis, said body including a yoke shaped to receive said bowl therein;
- 5 a mounting bracket coupled to one of said bowl or said mixer body;
- a mounting pin coupled to the other of said bowl or said mixer body, wherein said mounting pin can be received in said opening of said locking bracket to pivotally couple said bowl to said mixer body, said bowl being pivotable into and out of a closed position wherein said central axis of said bowl is generally aligned with said central axis of said output component; and
- 10 a sensor coupled to at least one of said bowl or said mixer body for sensing when said bowl is in said closed position.

Sub A¹ 24. The mixer system of claim 23 further including an actuating assembly coupled to said mixer body and wherein said sensor includes a switch coupled to said mixer body and said bowl includes a protrusion located on an outer surface thereof, and wherein when said bowl is in said closed position said protrusion engages said actuating assembly and urges said actuating assembly into contact with said switch to cause said switch to be triggered.

Sub A² 25. The mixer system of claim 24 wherein said actuating assembly is vertically movable along said mixer body, and wherein said actuating assembly extends generally vertically such that said actuating assembly can engage said switch for the entire vertical range of motion of said actuating assembly relative to said mixer body.

Sub A² 26. The mixer system of claim 23 wherein said bowl includes an upper edge, and wherein protrusion is located adjacent to said upper edge.

27. The mixer system of claim 23 further including a drive for raising and lowering said yoke and said bowl relative to said mixer body and a control circuit for receiving an output of said sensor and responsively preventing said bowl from being raised when said bowl is not in said closed position.

28. The mixer system of claim 23 further including a control circuit for receiving an output of said sensor and responsively preventing said motor from driving said rotatable output component when said bowl is not in said closed position.

29. A mixer system comprising:
a mixer body having an output component and a motor for rotating said output component about an axis of rotation;
a bowl for receiving a material to be mixed, said bowl having a central axis;
a pin coupled to one of said mixer body or said bowl; and

a mounting bracket coupled to the other of said mixer body or said bowl, said mounting bracket having an opening sized to receive said pin therein to removably couple said mixer body and said bowl, said pin and said mounting bracket forming a hinge about which said bowl can pivot into and out of a closed position wherein said central axis of said bowl is generally aligned with said axis of rotation, wherein the orientation of said central axis of said bowl remains generally fixed relative to the orientation of said axis of rotation of said output component during the entire pivoting range of motion of said bowl.

30. The mixer system of claim 29 wherein said bowl has an upper edge defining a plane, and wherein said plane remains generally fixed relative to said mixer body during the entire pivoting range of motion of said bowl, including the pivoting of said bowl into and out of said closed position.

31. A mixer bowl comprising:
a bowl body;
a bracket arrangement coupled to and extending from bowl body, said bracket arrangement defining at least a first opening and a second opening, the first opening being vertically spaced from said second opening and aligned therewith to define a pivot axis; and
a locking bracket coupled to and extending from said bowl body.

32. The mixer bowl of claim 31 where said bracket arrangement is defined by first bracket coupled to and extending from said bowl body and having said first opening and a second bracket coupled to and extending from said bowl body and having said second opening.

33. The mixer bowl of claim 31 wherein said bracket arrangement is defined by a single bracket which is coupled to and extends from said bowl body and defines both said first opening and said second opening.